

TECHNOLOGY SYMBOLS AND ABBREVIATIONS

NOTE: SYMBOLS AND ABBREVIATIONS INDICATED HERE AND NOT USED IN THE CONTRACT DOCUMENTS DO NOT APPLY TO THIS PROJECT. ADDITIONAL SYMBOLS MAY BE INDICATED IN THE CONTRACT DOCUMENTS.

TECHNOLOGY SERVICES

| | | | |
|----|--|--|---|
| W | WALL TELEPHONE OUTLET CONFIGURATION: 1 CABLE MOUNTING LOCATION: FLUSH WALL MOUNTING HEIGHT: 4'-0" AFF | | TELECOMMUNICATIONS GROUNDING BUSBAR (ELEVATION VIEW) |
| W | WALL TELEPHONE OUTLET CONFIGURATION: 1 CABLE MOUNTING LOCATION: SURFACE WALL MOUNTING HEIGHT: 4'-0" AFF | | TELECOMMUNICATIONS GROUNDING BUSBAR (PLAN VIEW) |
| # | WORKSTATION OUTLETS CONFIGURATION: AS INDICATED BY NO. MOUNTING LOCATION: FLUSH WALL MOUNTING HEIGHT: 1'-6" AFF | | CONVENIENCE POWER RECEPTACLE (ELEVATION VIEW) |
| # | WORKSTATION OUTLETS CONFIGURATION: AS INDICATED BY NO. MOUNTING LOCATION: SURFACE WALL MOUNTING HEIGHT: 1'-6" AFF | | WALL PHONE OUTLET (ELEVATION VIEW) |
| # | WORKSTATION OUTLETS - FLOOR MOUNTED CONFIGURATION: AS INDICATED BY NO. MOUNTING LOCATION: FLUSH FLOOR MOUNTING HEIGHT: FIF | | 1 RACK UNIT 24 PORT PATCH PANEL (ELEVATION VIEW) |
| # | WORKSTATION OUTLETS - FLOOR MOUNTED CONFIGURATION: AS INDICATED BY NO. MOUNTING LOCATION: FLUSH FLOOR MOUNTING HEIGHT: FIF | | 2 RACK UNIT 48 PORT PATCH PANEL (ELEVATION VIEW) |
| # | WORKSTATION OUTLETS - CEILING MOUNTED CONFIGURATION: AS INDICATED BY NO. MOUNTING LOCATION: CEILING SERVICE PANEL, UON MOUNTING HEIGHT: FIF | | 1 RACK UNIT HORIZONTAL CABLE MANAGER (ELEVATION VIEW) |
| # | WORKSTATION OUTLETS - CEILING MOUNTED CONFIGURATION: AS INDICATED BY NO. MOUNTING LOCATION: SURFACE CEILING / STRUCTURE MOUNTING HEIGHT: FIELD VERIFY | | 2 RACK UNIT HORIZONTAL CABLE MANAGER (ELEVATION VIEW) |
| # | WORKSTATION OUTLETS CONFIGURATION: AS INDICATED BY NO. MOUNTING LOCATION: CASEWORK OR ABOVE BACKSPLASH - FLUSH MOUNTING HEIGHT: FIELD VERIFY | | RACK MOUNTED FIBER OPTIC PATCH PANEL |
| # | WORKSTATION OUTLETS CONFIGURATION: AS INDICATED BY NO. MOUNTING LOCATION: CASEWORK OR ABOVE BACKSPLASH - SURFACE MOUNTING HEIGHT: FIELD VERIFY | | 12-STRAND SINGLE-MODE PANEL WITH (6) DUPLEX COUPLINGS |
| # | WORKSTATION OUTLETS CONFIGURATION: AS INDICATED BY NO. MOUNTING LOCATION: RACEWAY MOUNTING HEIGHT: AS INDICATED BY RACEWAY MOUNTING | | 12-STRAND MULTI-MODE PANEL WITH (6) DUPLEX COUPLINGS |
| # | WORKSTATION OUTLETS CONFIGURATION: AS INDICATED BY NO. MOUNTING LOCATION: RACEWAY MOUNTING HEIGHT: AS INDICATED BY RACEWAY MOUNTING | | TYPICAL CABLE RUNWAY WIDTH AS NOTED MOUNT 7'-0" TO BOTTOM OF STRINGERS UON (END VIEW) |
| AP | WIRELESS ACCESS POINT CONFIGURATION: (1) TERMINATED CABLE MOUNTING LOCATION: FLUSH CEILING MOUNTING HEIGHT: F/F | | TYPICAL CABLE TRAY WIDTH AS NOTED (END VIEW) |
| AP | WIRELESS ACCESS POINT CONFIGURATION: (1) TERMINATED CABLE MOUNTING LOCATION: SURFACE WALL MOUNTING HEIGHT: AS NOTED ON DRAWINGS | | TYPICAL VERTICAL CABLE RUNWAY SECTION WIDTH AS NOTED (ELEVATION VIEW) |
| | FIBER OPTIC SLACK STORAGE BOX (ELEVATION VIEW) | | CROSS CONNECT POINT |
| | FIBER OPTIC SLACK STORAGE BOX (PLAN VIEW) | | CROSS CONNECT POINT CROSS CONNECT BY OTHERS |

REFERENCE SYMBOLS

| | | | |
|----------------|--|-----------|------------------------------|
| REFER SHT # | GENERAL REFERENCE DESIGNATES SHEET NUMBER | NAME # | EQUIPMENT NAME AND NUMBER |
| DET # SHT # | DETAIL REFERENCE TOP DESIGNATES DETAIL NUMBER BOTTOM DESIGNATES SHEET NUMBER | # | LAB EQUIPMENT NUMBER |
| # SHT # | SECTION REFERENCE TOP DESIGNATES SECTION NUMBER BOTTOM DESIGNATES SHEET NUMBER | Δ | KEYNOTE NUMBER |
| # | ELEVATION SYMBOL | Δ | REVISION NUMBER |
| + | NEW CONNECTION TO EXISTING | # | CONSTRUCTION BULLETIN NUMBER |

ABBREVIATIONS

| | | | |
|--------------|--|---------|---|
| 10/100BaseTX | ETHERNET FAST ETHERNET | JB | JUNCTION BOX |
| 1000BaseSX | GIGABIT ETHERNET (SHORT WAVELENGTH) | KO | KNOCK-OUT |
| 1000BaseLX | GIGABIT ETHERNET (LONG WAVELENGTH) | KV | KILOVOLT |
| AC | AC | KVA | KILOVOLT-AMPERES |
| ACS | ACCESS CONTROL PANEL | KW | KILOWATTS |
| ACT | ACQUISITION TERMINATING CURRENT | KWH | KILOWATT HOURS |
| ADO | AUTOMATIC DOOR OPENER | LAN | LOCAL AREA NETWORK |
| APF | ABOVE FINISHED FLOOR | LV | LOW VOLTAGE |
| ALT | ALTERNATE | MATV | MASTER ANTENNA TELEVISION |
| ARCH | ARCHITECTURAL | MC | MECHANICAL CONTRACTOR |
| ASC | ABOVE SUSPENDED CEILING | MD | MAIN DISTRIBUTION FACILITY |
| AUTO | AUTOMATIC | MER | MAIN EQUIPMENT ROOM |
| AWG | AMERICAN WIRE GAUGE | MH | MAINTENANCE HOLE |
| BAS | BUILDING AUTOMATION SYSTEM | MM | MULTIMODE |
| BCS | BUILDING CONTROL SYSTEM | MP | MUSIC & PAGE |
| BEF | BUILDING ENTRANCE FACILITY | MTD | MOUNTED |
| BFC | BELOW FINISH CEILING | MTG | MOUNTING |
| BFL | BELOW FLOOR LEVEL | MTG HGT | MOUNTING HEIGHT |
| BLDG | BUILDING | NA | NOT APPLICABLE |
| BMS | BUILDING MANAGEMENT SYSTEM | NC | NEW CONNECTION NORMALLY CLOSED |
| BKR | BREAKER | NC | NOT IN CONTRACT |
| C | CONDUIT | NO | NORMALLY OPEN |
| CCTV | CLOSED CIRCUIT TELEVISION | NTS | NOT TO SCALE |
| CCT | CIRCUIT | OC | ON CENTER |
| CCT BKR | CIRCUIT BREAKER | OF | OWNER FURNISHED CONTRACTOR INSTALLED |
| CLG | CEILING | OF | OWNER FURNISHED OWNER INSTALLED |
| CONTR | CONTRACTOR | PB | PULL BOX/PUSH-BUTTON |
| CORR | CORRIDOR | PBX | PRIVATE BRANCH EXCHANGE |
| CP | CONSOLIDATION POINT | PC | PLUMBING CONTRACTOR/PHOTOCELL/PERSONAL COMPUTER |
| CT | CABLE TRAY | PDU | POWER DISTRIBUTION UNIT |
| DB | DIRECT BURIAL | PF | POWER FACTOR |
| DC | DIRECT CURRENT | PH | PHASE |
| DED | DEDICATED | PLB | PLUMBING |
| DET | DETAIL | PNL | PANEL |
| DIA | DIAMETER | PWR | POWER |
| DN | DOWN | REC | RECESSED |
| DS | DISCONNECT SWITCH | RECEP | RECEPTACLE |
| DVR | DIGITAL VIDEO RECORDER | REL | RELOCATE |
| EC | EMPTY CONDUIT/ELECTRICAL CONTRACTOR | REQD | REQUIRED |
| EDB | ELECTRIC DUCT BANK | RU | RACK UNIT |
| EF | ENTRANCE FACILITY | SHT | SHEET |
| EG | EQUIPMENT GROUND | SIG | SIGNAL |
| ESS | ENGINE GENERATOR SET | SIM | SIMILAR |
| EIDF | EQUIPMENT INTERMEDIATE DISTRIBUTION FACILITY | SIO | STANDARD INFORMATION OUTLET |
| EJ | EXPANSION JOINT | SM | SINGLEMODE |
| ELEC | ELECTRIC/ELECTRICAL | SPEC | SPECIFICATION |
| EMER | EMERGENCY | SS | SAFETY SWITCH |
| EMT | ELECTRICAL METALLIC TUBING | STA | STATION |
| EQUIP | EQUIPMENT | SW | SWITCH |
| ER | EQUIPMENT ROOM | TB | TERMINAL BOX |
| ETR | EXISTING TO REMAIN | TEL | TELEPHONE |
| F/F | FLUSH WITH FINISHED CEILING | TFA | TO FLOOR ABOVE |
| F/F | FLUSH WITH FINISHED FLOOR | TFB | TO FLOOR BELOW |
| FFW | FLUSH WITH FINISHED WALL | TO | TELECOMMUNICATIONS OUTLET |
| FA | FIRE ALARM | TR | TELECOM ROOM |
| FACP | FIRE ALARM CONTROL PANEL | TS | TAMPER SWITCH/TIME SWITCH |
| FL | AT FLOOR LINE | TV | TELEVISION |
| FLEX | FLEXIBLE | TVSS | TRANSIENT VOLTAGE SURGE SUPPRESSION |
| FLR | FLOOR | TYP | TYPICAL |
| FLUOR | FLUORESCENT | UC | UNDER COUNTER |
| FSCP | FLOW SWITCH | UG | UNDERGROUND |
| FSS | FUSED SAFETY SWITCH | UN | UNLESS OTHERWISE NOTED |
| FSP | FLAME SAFEGUARD CONTROL PANEL | UON | UNINTERRUPTIBLE POWER SUPPLY |
| FVNR | FULL VOLTAGE NON-REVERSING | V | VOLTAGE |
| GBIC | GIGABIT INTERFACE CONVERTER | VoIP | VOICE OVER INTERNET PROTOCOL |
| GC | GENERAL CONTRACTOR | W | WIRE |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER | WP | WEATHERPROOF |
| GND | GROUND | WS | WALL SURFACE |
| GEN | GENERATOR | WT | WATER TIGHT |
| GRC | GALVANIZED RIGID CONDUIT | X | EXIST |
| HH | HANDHOLE | XFMR | TRANSFORMER |
| HT | HEIGHT/HEAT TRACE | XP | EXPLOSION PROOF |
| HV | HIGH VOLTAGE | | |
| IDF | INTERMEDIATE DISTRIBUTION FACILITY | | |
| IMC | INTERMEDIATE METAL CONDUIT | | |

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SEALS AND SIGNATURES



ISSUED FOR CONSTRUCTION 07/03/12

REV. NO. DESCRIPTION BY APVD DATE



FMS
Facilities Management Services

PROJECT TITLE ADVANCED PROTEIN
CRYSTALLIZATION FACILITY,
ARGONNE NATIONAL LABORATORY
PROJECT NO 08541-00
DRAWING TITLE

TECHNOLOGY SYMBOLS
AND ABBREVIATIONS

| | | |
|---|------------------------|------------------|
| DESIGNED MAT | A/E CAD FILE T00.00 | FACILITY NOIS |
| DRAWN MEK | A/E DWG. NO. T00.00 | |
| CHECKED MAT | CAD NO. | |
| PROJECT MANAGER | DWG STATE | |
| ANL - JESSE ADAMS DATE - 07/03/12 | BND ORDER | |
| FACILITY DOCUMENT NUMBER J446-101-W- | | REV. NO. |

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